

SOUTH DAKOTA STATEWIDE FISHERIES SURVEY

Fish, Deuel County

LQP-Lake-14-000

2025

Lake Information

Name:	Fish	Maximum Depth:	8 Feet
County:	Deuel	Mean Depth:	4 Feet
		OHWM Elevation:	1,751
Surface Area:	754 Acres	Outlet Elevation:	1,751

Surveys and Investigations

Survey methods used by gear type, date, and effort.

Gear	Date	Effort
AFS std gill net	Sep 16, 2025	6 net-nights
AFS std gill net	Sep 17, 2025	6 net-nights

Common Fish Species Present

Walleye

Northern Pike

Yellow Perch

Bigmouth Buffalo

Freshwater Drum

Black Bullhead

White Bass

Common Carp

Channel Catfish

White Sucker

Terminology

Catch per unit effort (**CPUE**) refers to the relative abundance of a species. It is defined as the number of fish captured per unit of effort (i.e., number of fish captured per net-night or number of fish captured per hour electrofishing). In this report CPUE is typically given for only stock-length fish (see length categories table for stock lengths).

A statewide effort to help make netting efforts comparable to all waters sampled across the state, occurred in 2017, with a switch to American Fisheries Society gill nets. Past gill netting efforts were completed with different style/types of nets and are not comparable side by side.

- **AFS std gill net** – 80 ft experimental gill net containing eight panels (10 ft each) of varying monofilament meshes of 0.75, 1.00, 1.25, 1.50, 1.75, 2.00, 2.25 and 2.50 inches.
- **std experimental gill net for non-Missouri River waters** - 150 ft experimental gill net containing six panels (25 ft each) of varying monofilament meshes of 0.5, 0.75, 1.00, 1.25, 1.50 and 2.00 inches.
- **std experimental gill net for Missouri River reservoirs** – 300 ft experimental gill net containing six panels (50 ft each) of varying multifilament meshes of 0.5, 0.75, 1.00, 1.25, 1.50 and 2.00 inches.

$$CPUE = \frac{\text{number of fish}}{\text{effort}}$$

Population size structure is quantified using the indices proportional size distribution of quality-length fish (**PSD**) and proportional size distribution of preferred-length fish (**PSD-P**). These indices indicate the proportion of stock-length fish that are equal to or greater than a given length. Minimum lengths for stock, quality and preferred length fish are given in the length categories table.

$$PSD = \left(\frac{\text{number of fish} \geq \text{quality length}}{\text{number of fish} \geq \text{stock length}} \right) \times 100$$

$$PSD - P = \left(\frac{\text{number of fish} \geq \text{preferred length}}{\text{number of fish} \geq \text{stock length}} \right) \times 100$$

Relative weight (**Wr**) is used to quantify fish plumpness. Relative weight is the ratio of what a fish weighs (W) compared to a length-specific standard weight (Ws) multiplied by 100. Relative weight values of 95-105 are commonly cited as optimum values, but values in the 80s are common during summer sampling in South Dakota.

$$Wr = \left(\frac{W}{W_s} \right) \times 100$$

Confidence intervals (**CI**) are provided for many of the estimates calculated in this report. The confidence interval provides a range in which the true mean is expected to fall. For example, with an 80% CI we are 80% confident that the interval contains the true value.

Length categories include stock (**S**), quality (**Q**), preferred (**P**), memorable (**M**) and trophy (**T**). Length categories for most species have been defined based on a percentage of the world record length for that species. Some species mentioned in this report do not have defined length categories. Length categories for species used in this report are provided in the following table. Measurements are the minimum total length for each category and are reported in inches (in) and centimeters (cm).

Species Name	Stock		Quality		Preferred		Memorable		Trophy	
	(in)	(cm)	(in)	(cm)	(in)	(cm)	(in)	(cm)	(in)	(cm)
Black Bullhead	6	15	9	23	12	30	15	38	18	46
Black Crappie	5	13	8	20	10	25	12	30	15	38
Bluegill	3	8	6	15	8	20	10	25	12	30
Brown Trout	8	20	12	30	16	40	20	50	18	46
Channel Catfish	11	28	16	41	24	61	28	71	36	91
Freshwater Drum	8	20	12	30	15	38	20	51	25	63
Lake Trout	12	30	20	50	26	65	31	80	39	100
Largemouth Bass	8	20	12	30	15	38	20	51	25	63
Muskellunge	20	51	30	76	38	97	42	107	50	127
Northern Pike	14	35	21	53	28	71	34	86	44	112
Pumpkinseed	3	8	6	15	8	20	10	25	12	30
Rainbow Trout	10	25	16	40	20	50	26	65	31	80
Rudd	6	15	10	25	12	30	15	38	19	48
Sauger	8	20	12	30	15	38	20	51	25	63
Smallmouth Bass	7	18	11	28	14	35	17	43	20	51
Walleye	10	25	15	38	20	51	25	63	30	76
White Bass	6	15	9	23	12	30	15	38	18	46
White Crappie	5	13	8	20	10	25	12	30	15	38
Yellow Bullhead	4	10	7	18	9	23	11	28	14	36
Yellow Perch	5	13	8	20	10	25	12	30	15	38

Catch Summary of Stock Length Fish

Catch per unit effort (CPUE), proportional size distribution (PSD), proportional size distribution of preferred length fish (PSD-P), and relative weight (Wr) for species sampled in survey with 80% confidence interval (CI-80).

*** Methods/Species that ignore stock length**

			Abundance		Stock Density Indices				Condition	
Gear	Species	Sample Size (n)	CPUE	CI-80	PSD	CI-80	PSD-P	CI-80	Wr	CI-80
AFS std gill net	Bigmouth Buffalo	123	10.3	1.9	4		0		101	1
	Black Bullhead	23	1.9	0.6	91		17		87	2
	Channel Catfish	11	0.9	0.4	100		45		92	2
	Common Carp	16	1.3	0.5	94		25		97	2
	Freshwater Drum	68	4.3	1.2	100		8		93	1
	Northern Pike	16	1.3	0.3	94		63	20	80	2
	Walleye	46	3.8	0.7	52	11	30	10	88	1
	White Bass	17	1.4	0.6	100		100		87	2
	White Sucker	7	0.6	0.3	100		86		102	3
	Yellow Perch	25	2.1	0.8	92		56	16	96	2

10-Year Catch Per Unit Effort by Gear and Species

Catch per unit effort (CPUE) and average (Avg) of species across 10 years using different gear types.

*** Methods/Species that ignore stock length**

Gear	Species	CPUE										Avg
		2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	
AFS std gill net	Bigmouth Buffalo		5.3				6.9				10.3	7.50
	Black Bullhead		9.0				10.4				1.9	7.10
	Channel Catfish		0.0				2.2				0.9	1.03
	Common Carp		0.6				2.3				1.3	1.40
	Freshwater Drum		0.0				15.3				4.3	6.53
	Northern Pike		2.7				1.1				1.3	1.70
	River Carpsucker		0.0				0.2				0.0	0.07
	Walleye		18.0				8.3				3.8	10.03
	White Bass		0.2				1.4				1.4	1.00
	White Sucker		1.4				1.1				0.6	1.03
	Yellow Perch		25.5				16.8				2.1	14.80

10-Year Size Structure and Condition Statistics by Gear and Species

Species proportional size distribution (PSD), proportional size distribution of preferred length fish (PSD-P), and relative weight (Wr) collected by different gear types across 10 years.

Gear	Species	Index	Year									
			2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
AFS std gill net	Bigmouth Buffalo	PSD		32				2				4
		PSD-P		2				0				0
		Wr		108				109				101
	Black Bullhead	PSD		36				46				91
		PSD-P		19				34				17
		Wr		88				84				87
	Channel Catfish	PSD						100				100
		PSD-P						15				45
		Wr						98				92
	Common Carp	PSD		43				4				94
		PSD-P		29				4				25
		Wr		101				106				97
	Northern Pike	PSD		72				77				94
		PSD-P		13				23				63
		Wr		85				90				80
	Walleye	PSD		100				97				52
		PSD-P		0				34				30
		Wr		105				94				88
	White Bass	PSD		100				100				100
		PSD-P		0				6				100
		Wr		99				92				87
	White Sucker	PSD		100				92				100
		PSD-P		100				92				86
		Wr		105				106				102
	Yellow Perch	PSD		41				81				92
		PSD-P		28				45				56
		Wr		92				85				96

Length at Capture

Mean length at capture by age across years sampled, sample size (N).

Species: Walleye

Mean Length (expanded sample number) at capture by age											
Year	N	1	2	3	4	5	6	7	8	9	10+
2025	46	301 (1)	364 (27)	500 (3)	535 (9)	595 (1)	595 (1)	645 (1)		655 (1)	699 (2)
2021	99	361 (3)	422 (23)	446 (6)	504 (58)		626 (10)				
2017	216		458 (216)								

Species: Yellow Perch

Mean Length (expanded sample number) at capture by age											
Year	N	1	2	3	4	5	6	7	8	9	10+
2025	25	172 (2)	224 (5)	257 (16)	288 (2)						
2021	201	159 (30)	222 (73)	260 (13)	266 (69)	286 (12)	311 (1)	326 (1)			
2017	306	178 (208)	263 (91)	300 (3)	326 (4)						

Fish Condition

Mean relative weight (Wr) by sample size (N), length category stock to quality (S-Q), quality to preferred (Q-P), preferred to memorable (P-M), and memorable (M) for species collected across survey years with standard error (SE).

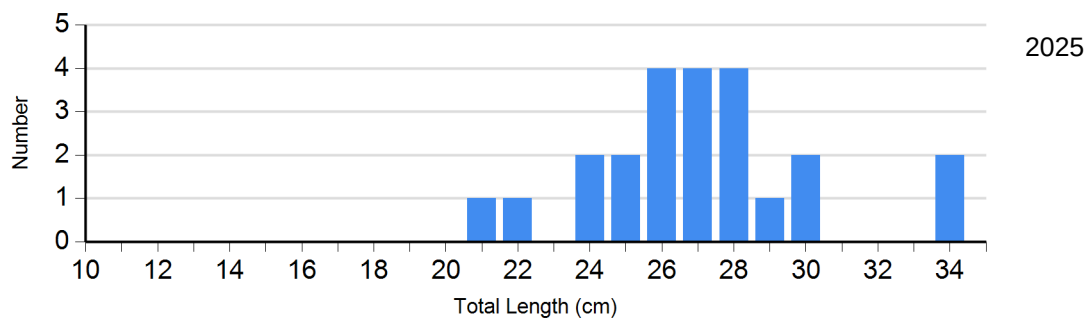
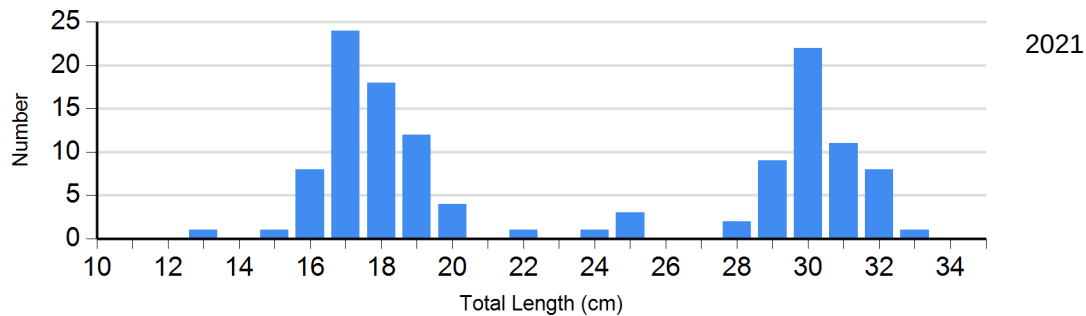
Species	Year	Length Groups							
		S-Q		Q-P		P-M		M	
		N	Wr (SE)	N	Wr (SE)	N	Wr (SE)	N	Wr (SE)
Black Bullhead Gill Net	2021	68	86 (0.7)	15	82 (1.8)	42	82 (1.2)	0	
	2025	2	85 (0.3)	17	88 (2.0)	4	84 (3.6)	0	
Channel Catfish Gill Net	2021	0		22	95 (1.8)	4	116 (4.2)	0	
	2025	0		6	92 (2.0)	3	92 (3.5)	2	90 (2.7)
Common Carp Gill Net	2021	27	107 (1.3)	0		1	88	0	
	2025	1	98	11	98 (2.2)	4	95 (3.3)	0	
Northern Pike Gill Net	2021	3	88 (10.1)	7	93 (3.8)	3	86 (3.6)	0	
	2025	1	91	5	82 (1.7)	10	77 (1.9)	0	
Walleye Gill Net	2021	3	85 (0.5)	62	92 (0.8)	28	98 (1.1)	6	96 (2.7)
	2025	22	85 (0.8)	10	89 (1.9)	10	90 (2.1)	4	92 (3.9)
White Bass Gill Net	2021	0		16	93 (1.3)	1	89	0	
	2025	0		0		14	87 (1.2)	3	91 (4.8)
White Sucker Gill Net	2021	1	117	0		4	114 (1.3)	8	100 (2.8)
	2025	0		1	105	0		6	102 (2.6)
Yellow Perch Gill Net	2021	38	90 (1.2)	72	86 (0.6)	84	81 (0.5)	7	78 (2.4)
	2025	2	89 (5.1)	9	97 (2.0)	13	97 (1.8)	1	90

Length Frequency Distribution

Length frequency histogram of species sampled by year.

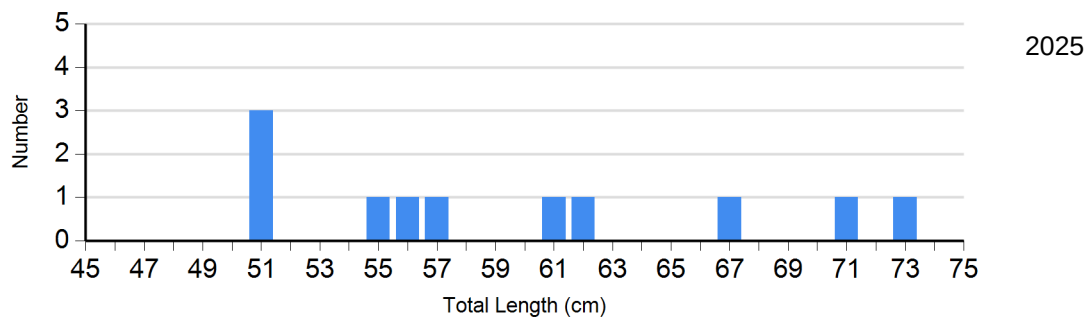
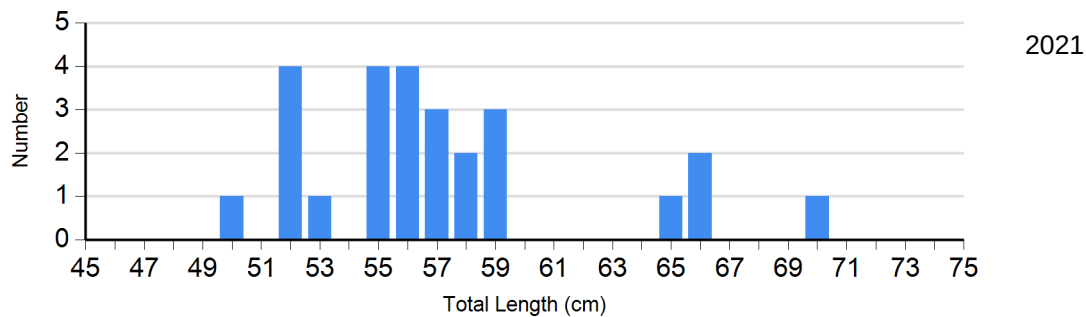
Species: Black Bullhead

Gear: AFS std gill net

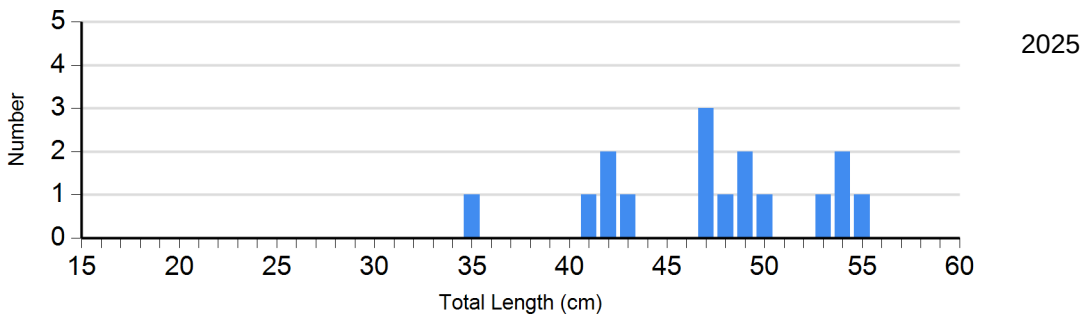
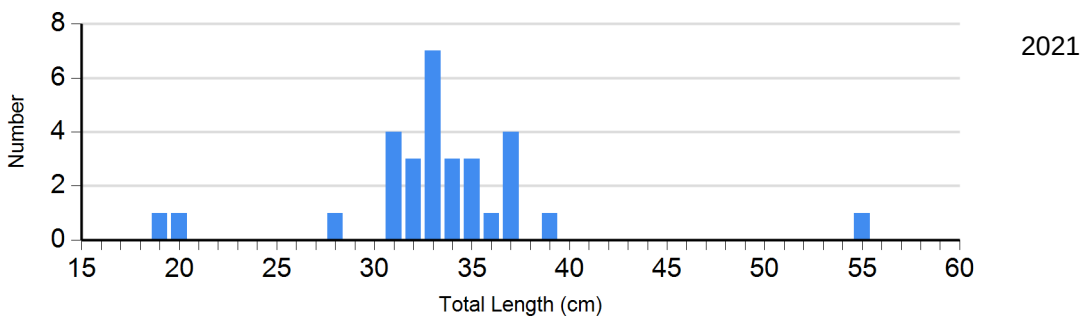


Species: Channel Catfish

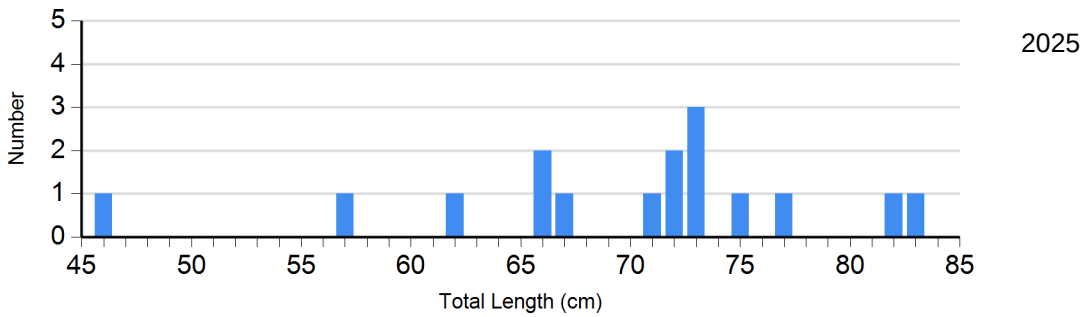
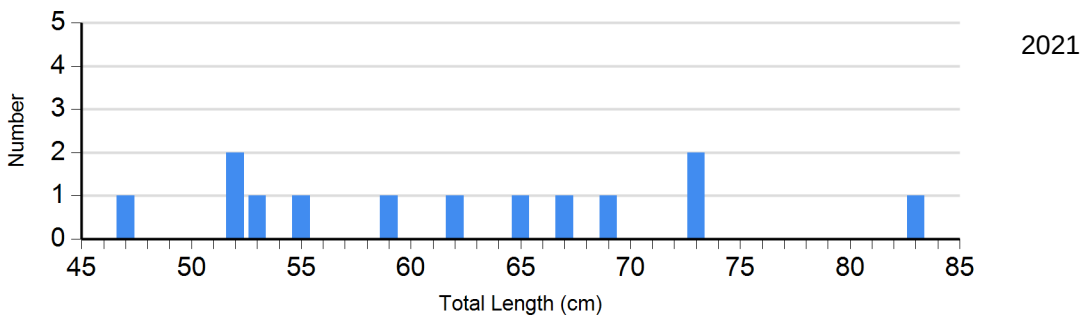
Gear: AFS std gill net



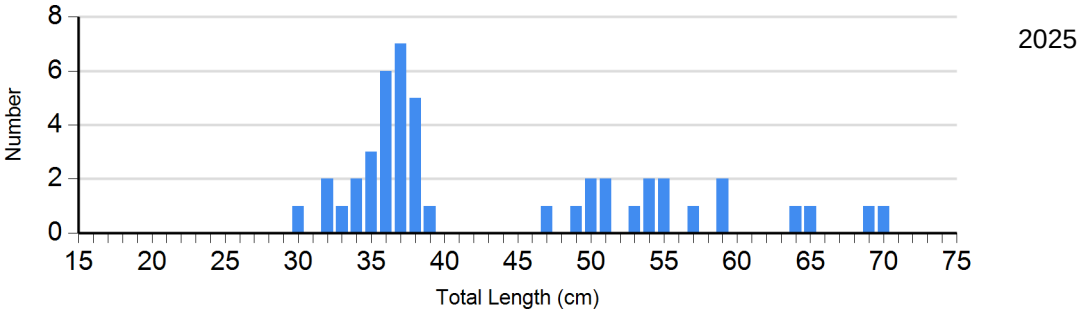
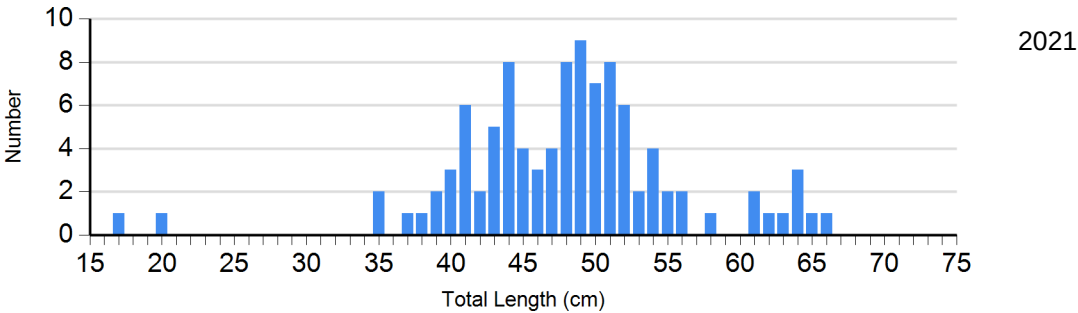
Species: Common Carp
Gear: AFS std gill net



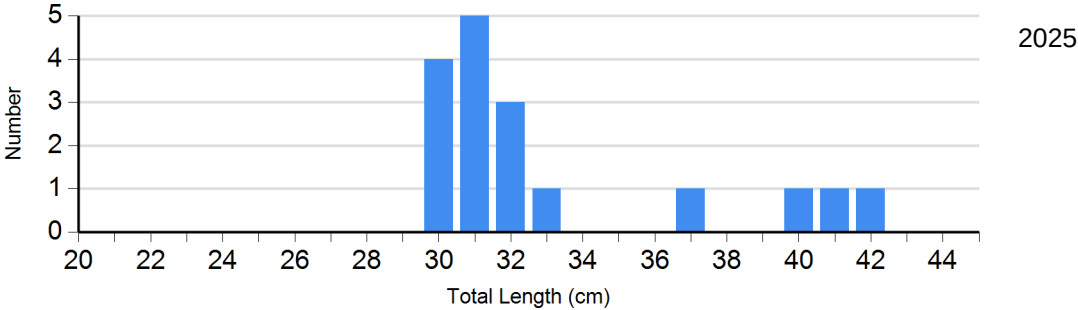
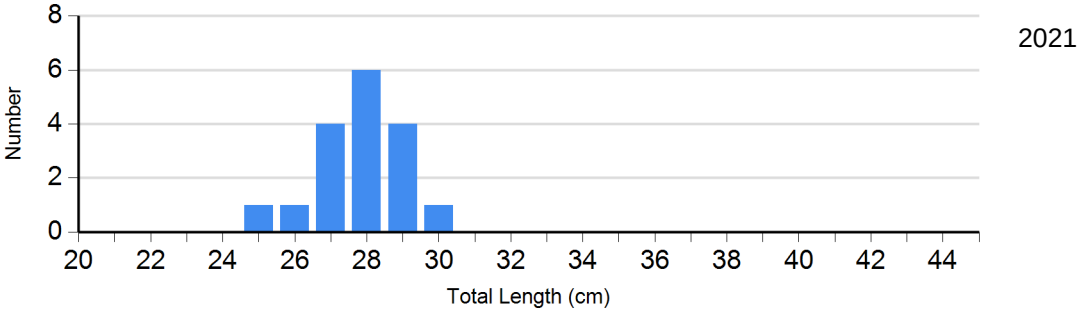
Species: Northern Pike
Gear: AFS std gill net



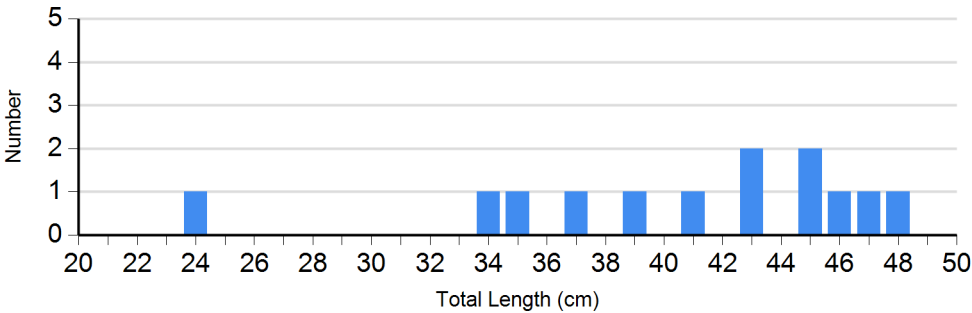
Species: Walleye
Gear: AFS std gill net



Species: White Bass
Gear: AFS std gill net

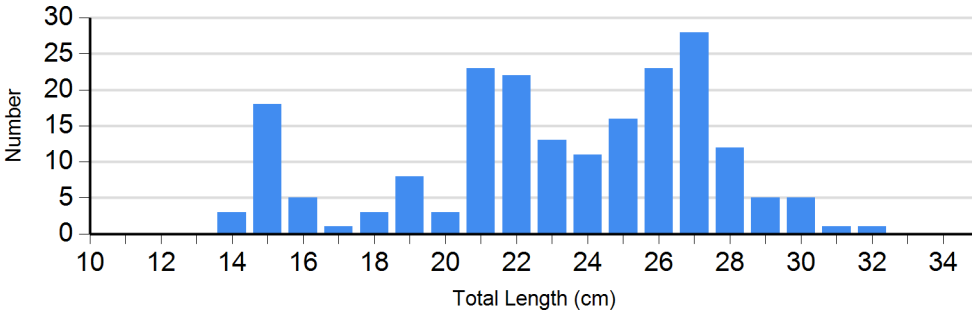


Species: White Sucker
Gear: AFS std gill net

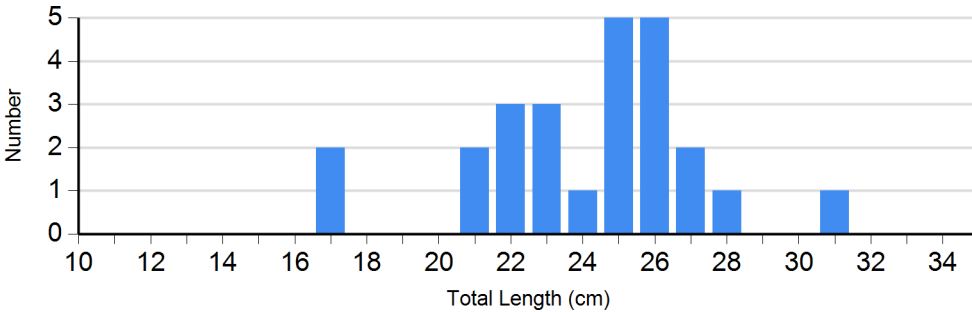


2021

Species: Yellow Perch
Gear: AFS std gill net



2021

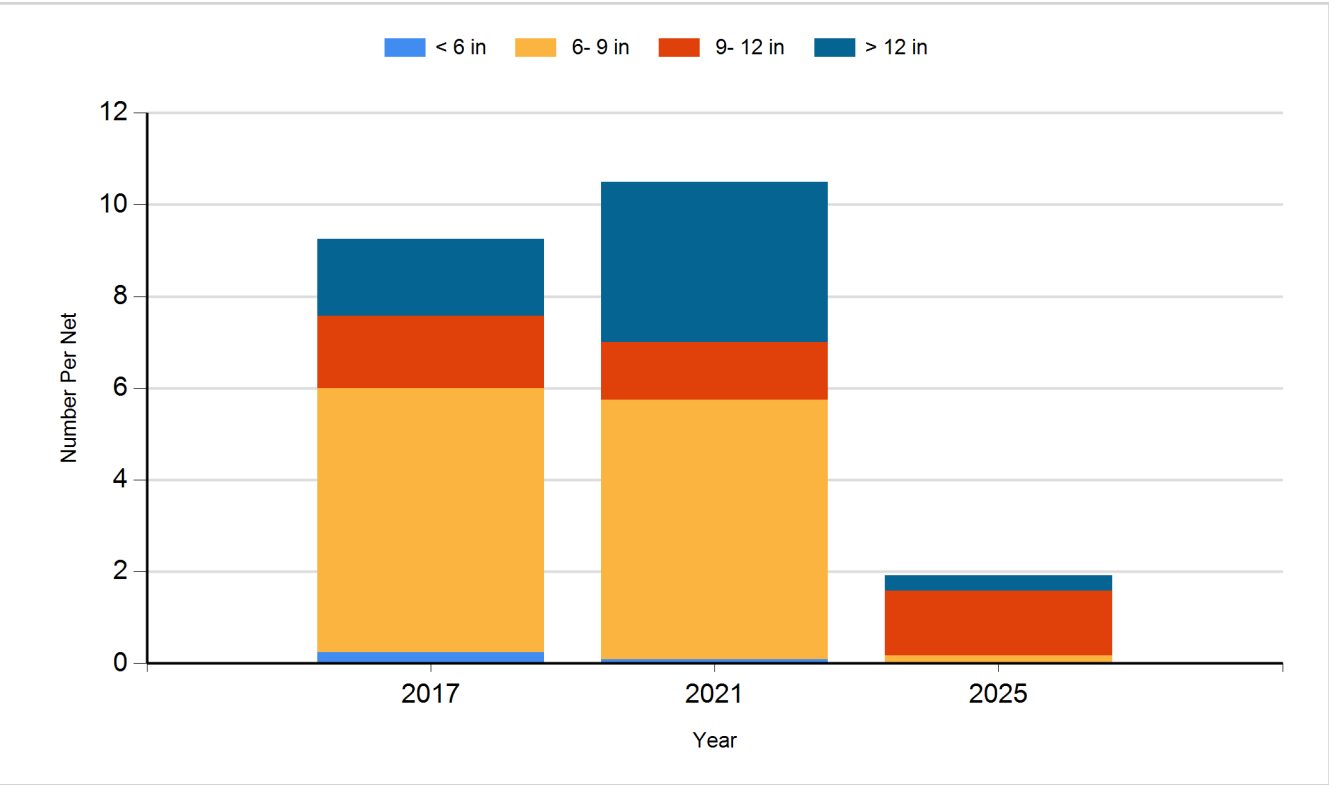


2025

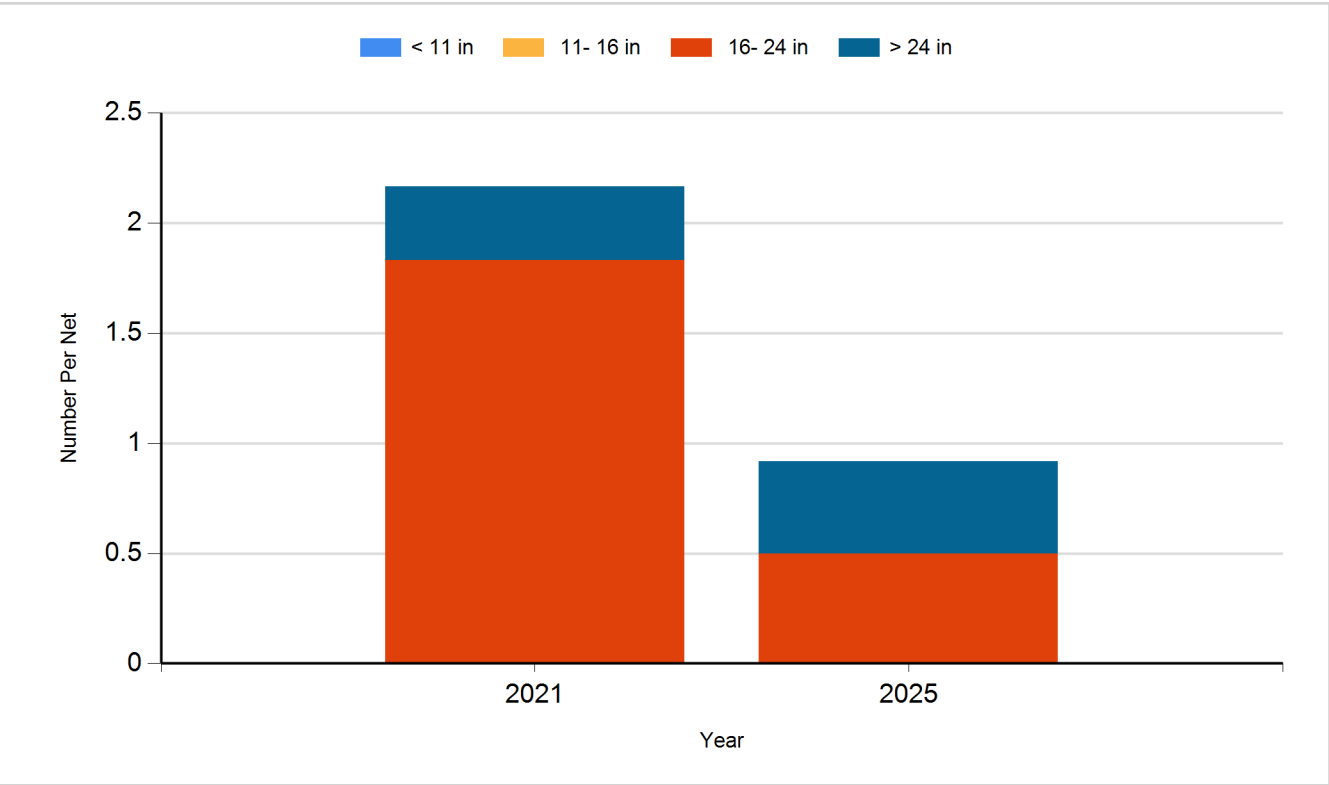
Historic Fish Sizes and Relative Abundance

Size distribution per net by color for species sampled by year.

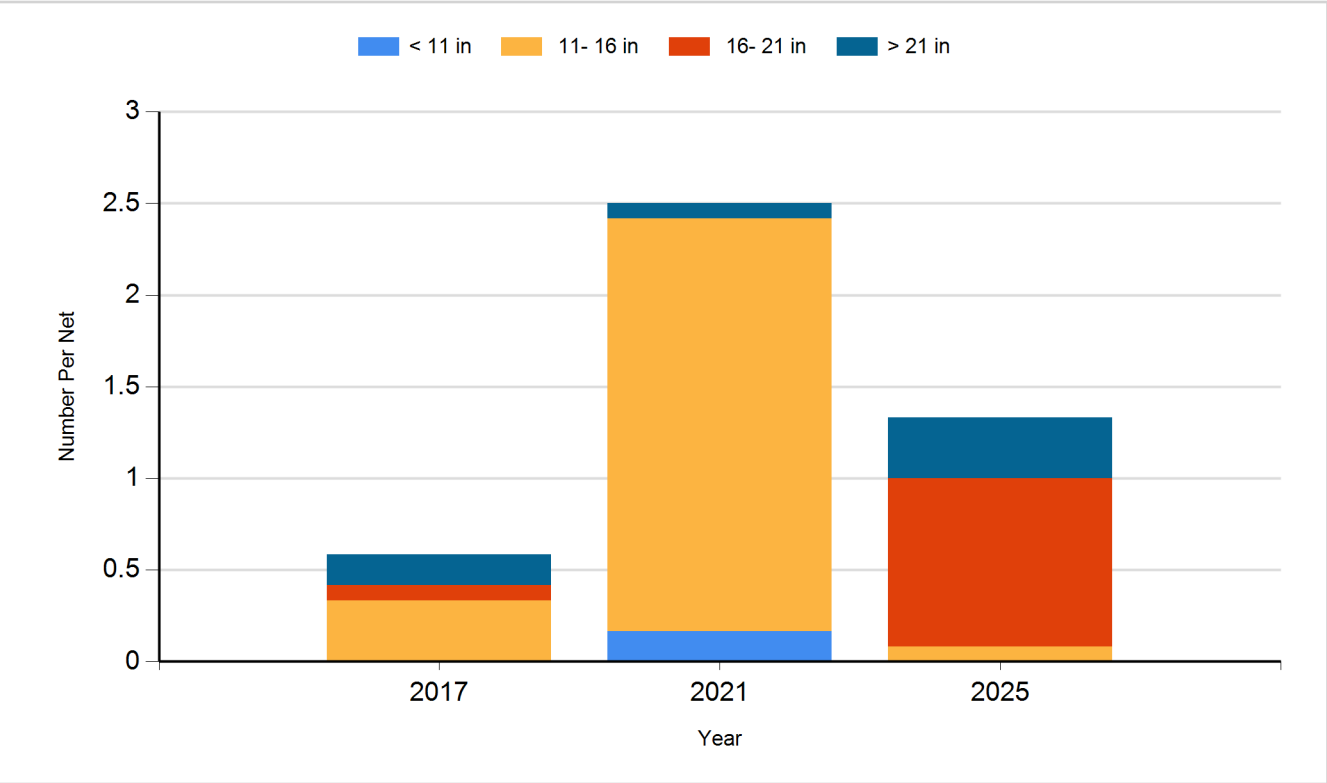
Species: Black Bullhead
Gear: AFS std gill net



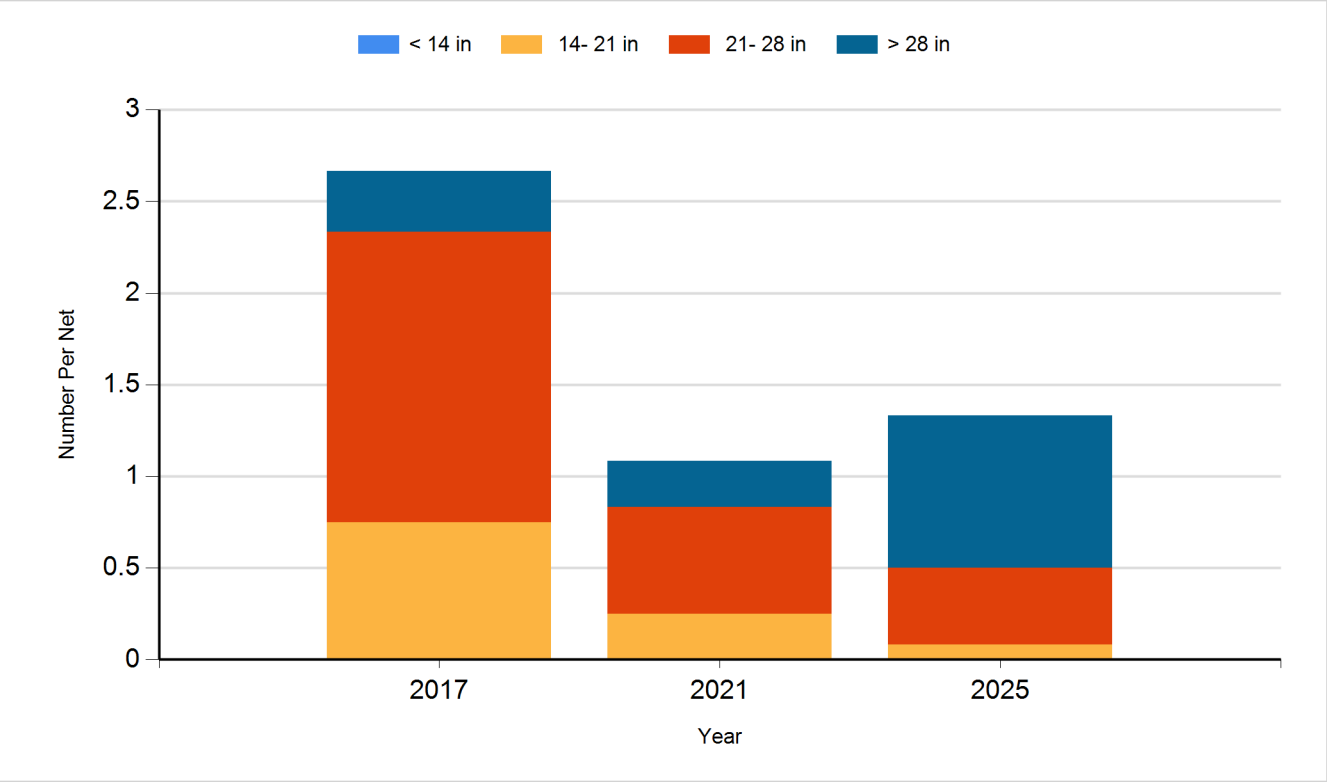
Species: Channel Catfish
Gear: AFS std gill net



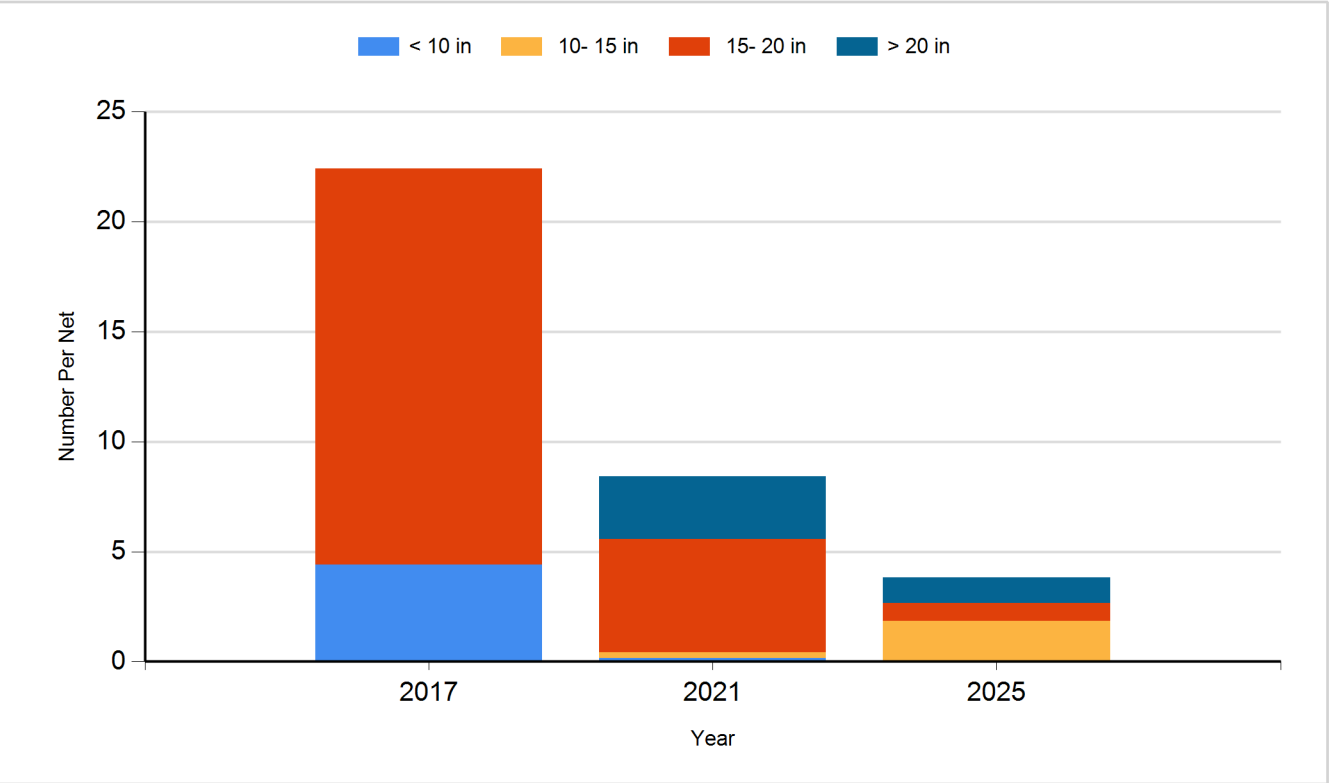
Species: Common Carp
Gear: AFS std gill net



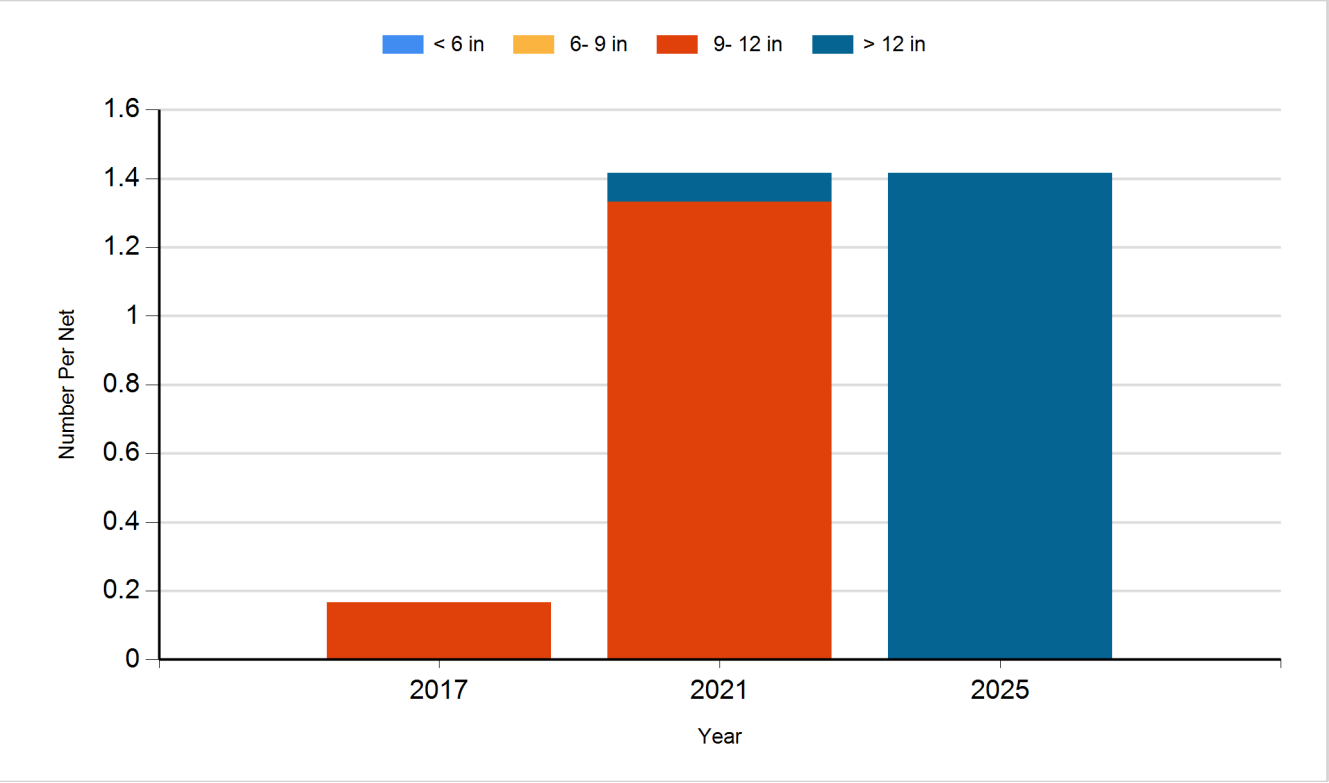
Species: Northern Pike
Gear: AFS std gill net



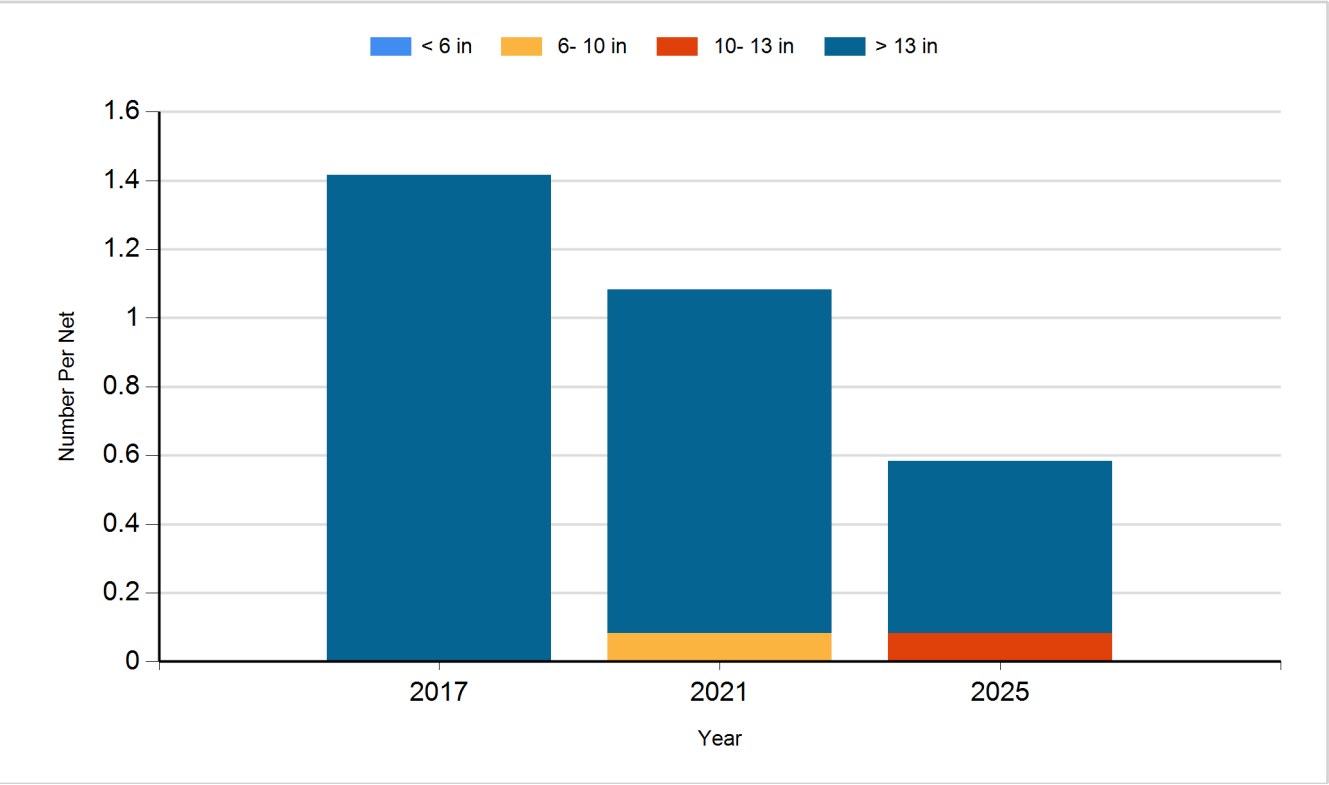
Species: Walleye
Gear: AFS std gill net



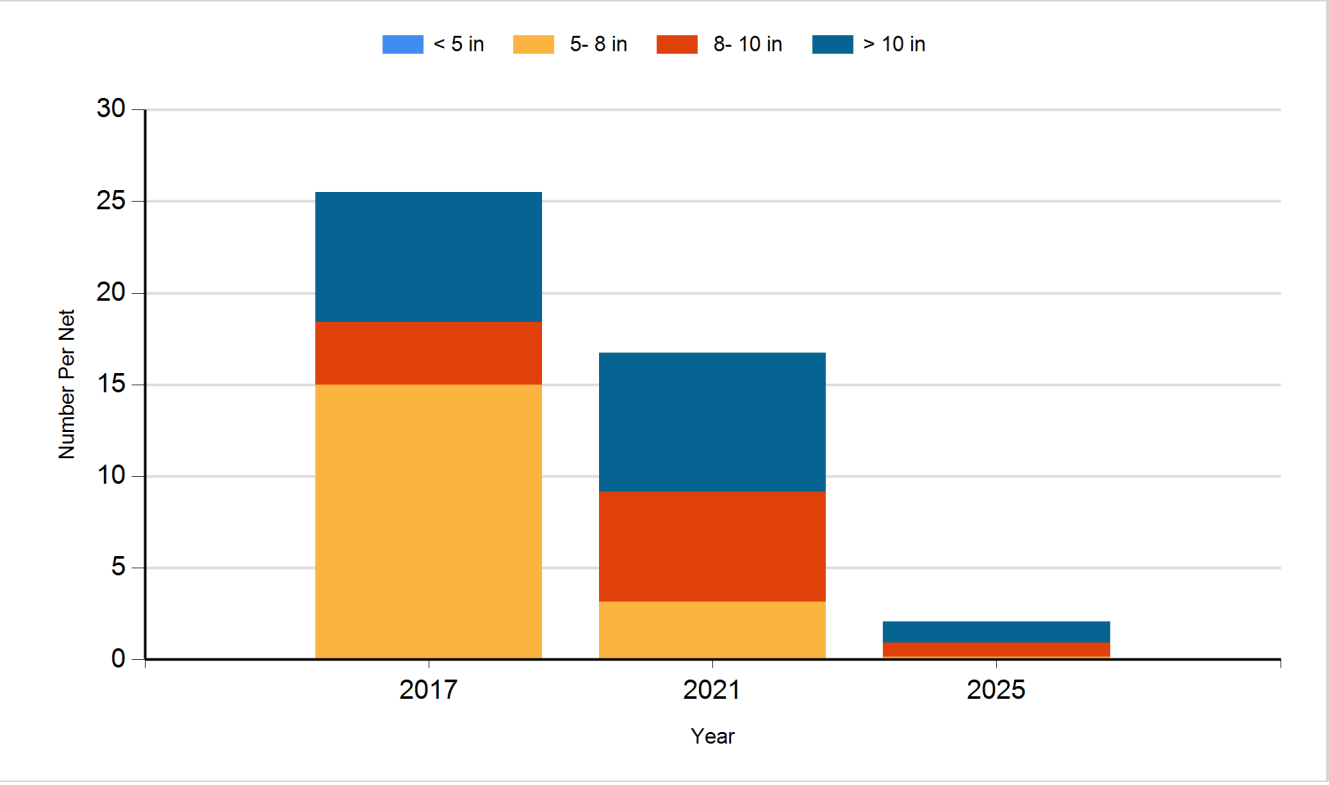
Species: White Bass
Gear: AFS std gill net



Species: White Sucker
Gear: AFS std gill net



Species: Yellow Perch
Gear: AFS std gill net



Fish Stocking

Number of fish stocked by year, species, and size.

Year	Species	Size	Number
2015	Walleye	Fry	500,000
2017	Walleye	Fry	400,000
2019	Walleye	Small Fingerling	70,750
2021	Walleye	Fry	400,000
2023	Walleye	Fry	450,000
2025	Walleye	Fry	400,000